

PSEUDOSCORPIONS PHORETIC ON A SPIDER¹

C. Clayton Hoff² and Daniel T. Jennings³

On 2 June 1969 Thomas R. Chacon, a U. S. Forest Service employee, found two female pseudoscorpions of the species *Lustrochernes grossus* (Banks) (Chernetidae) clinging to dorsal abdominal setae of a male giant crab spider, *Olios fasciculatus* Simon (Heteropodidae). The spider was collected from mesquite litter in an area predominately of pinyon and juniper near Arizona State Highway 160, 2 miles northeast of Payson, Gila County, Arizona, elevation about 5000 feet. The species of spider is widely distributed in southwestern U.S. and has been reported from several localities in Arizona; the species of pseudoscorpion is common in Colorado, New Mexico, and Arizona. Except for being found beneath the elytra of cerambycid beetles taken in stands of ponderosa pine (Banks, 1902; Hoff, Jennings, and Pase, unpublished data), *L. grossus* has been reported (Hoff, 1956, 1959) as occurring invariably beneath the bark of ponderosa pine (*Pinus ponderosa* Laws.) logs, stumps, and snags. Spider and pseudoscorpions are deposited in the collections of the American Museum of Natural History.

Phoresy involving pseudoscorpions on insects of several orders and on phalangids, birds, and mammals is common. Early records have been compiled by Vachon (1940) and Beier (1948). Strangely absent, however, are records of pseudoscorpions being found attached to spiders, and indeed a very careful search of the literature has failed to uncover a single record of pseudoscorpion-spider phoresy. This is in strong contrast to the many records of pseudoscorpions reported from phalangids (Vachon, 1947; Beier, 1948; Savory, 1966). We are inclined to follow Savory in thinking that the relationship of pseudoscorpion and phalangid is largely by chance. This does not aid in explaining, however, the occurrence of pseudoscorpions on phalangids and the apparent absence or rarity of pseudoscorpions from spiders. Habitatwise there should be as much opportunity for pseudoscorpions to contact spiders as there is for the animals to contact phalangids.

We have considered possible explanations for the difference between phalangids and spiders with respect to pseudoscorpion phoresy. It seems feasible that the pseudoscorpion can cling very tenaciously to the slender leg of the phalangid by means of either one or both pedipalps, while the leg of the spider is too stout to allow the chelae to maintain a strong grip, although pseudoscorpions could certainly cling to the legs of small spiders and to the stout spines often present on the legs of some spiders. While phalangids frequently clean their legs (Cloudsley-Thompson, 1968), they must be unable or have no instinct to dislodge the pseudoscorpions. We considered the possibility that the phalangid does not eat pseudoscorpions and hence gives no attention to those attached to the legs, but Cloudsley-Thompson (1956) observed that while phalangids do not remove and eat pseudoscorpions from the legs, they do eat pseudoscorpions that by their own initiative drop from the legs.

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²Department of Biology, University of New Mexico, Albuquerque, NM 87131.

³Rocky Mountain Forest and Range Experiment Station, USDA Forest Service, Albuquerque, NM 87101.

We believe that the aggressive nature of the spider, in contrast to the behavior of the phalangid, at least partly may explain the absence of pseudoscorpions from the legs of spiders. Because phalangids remain in a resting position for long periods of time and are not disturbed easily, it is probably less difficult for a pseudoscorpion to climb a leg and become attached to a phalangid than to a spider. Phalangids move slowly, are not especially aggressive, do not respond quickly to the presence of prey, and apparently do not react adversely to the presence of a few to several attached pseudoscorpions. In contrast the more aggressive and more quickly reacting spider may well capture and eat pseudoscorpions before the pseudoscorpions have an opportunity to attach to the leg or to the body of the spider. The aggressive spider may also remove pseudoscorpions from body parts that can be reached by the legs and pedipalps, but that once firmly attached, as in the present instance to the anterior part of the dorsum of the abdomen, the pseudoscorpions cannot be plucked off and eaten by the spider.

Abstract.—Two female pseudoscorpions, *Lustrochernes grossus* (Banks) (Chernetidae), were found attached to the dorsum of the abdomen of a male giant crab spider, *Olios fasciculatus* Simon (Heteropodidae), collected in Gila County, Arizona. This is the first report of pseudoscorpions phoretic on a spider.—C. Clayton Hoff, *Department of Biology, University of New Mexico, Albuquerque, NM 87131* and Daniel T. Jennings, *Rocky Mountain Forest and Range Experiment Station, Albuquerque, NM 87101*.

Descriptors: Pseudoscorpionida; Chernetidae; *Lustrochernes*; Araneae; Heteropodidae; *Olios*; phoresy; Arizona.

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